



0060376

**Department of Energy**  
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REISSUE

**AUG 18 2003**

03-RCA-0338

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Addressees:

**TRANSMITTAL OF DOE/RL-2002-72, REVISION 2, RADIOACTIVE AIR EMISSIONS  
NOTICE OF CONSTRUCTION (NOC) FOR TRANSITION OF THE 241-Z LIQUID WASTE  
TREATMENT FACILITY AT THE PLUTONIUM FINISHING PLANT**

Reference is made to Washington State Department of Health (WDOH) letter to J. B. Hebdon, RL, from A. W. Conklin, AIR 03-701, dated July 2, 2003. In response to comments received in the referenced letter, enclosed is a copy of the revised subject NOC application and off-permit modification request. This revised NOC application is submitted to the WDOH, Division of Radiation Protection, for approval pursuant to Washington Administrative Code 246-247-060. A copy is also being provided to the U.S. Environmental Protection Agency (EPA), Region 10, for information.

Enclosure 1 addresses specifically the comments in the WDOH letter, which are reflected in the revised NOC application (Enclosure 2). For the activities described in this NOC, which entail deactivation activities at the 241-Z Building in the Plutonium Finishing Plant Complex (in the 200 West Area of the Hanford Site), the revised total estimated unabated and abated effective dose equivalents to the hypothetical, maximally exposed public individual in the enclosed documentation are slightly higher than previously submitted.

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This NOC addresses activities performed before undertaking a Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) removal action. A CERCLA removal action work plan, identifying specific radioactive air emission monitoring requirements identified through the applicable or relevant and appropriate requirements identification process, will be prepared to address the final disposition of the facility. This NOC will expire upon approval of the CERCLA removal action work plan by the lead agency.

For reasons previously outlined in our letter of May 22, 2003, K. A. Klein to A. W. Conklin, et.al. "DOE/RL-2002-72, Revision 1, Radioactive Air Emissions Notice of Construction for Transition of the 241-Z Liquid Waste Treatment Facility at the Plutonium Finishing Plant, 200 West Area, Hanford Site, Richland, Washington and National Emissions Standard for Hazardous Air Pollutants; Radionuclides: Request for Approval of an Alternative Stack Flow Measurement and Sample Extraction Procedure for 296-Z-3 stack," approval from both the EPA and WDOH of an alternative procedure for stack flow measurement and sample extraction at the 296-Z-3 stack is requested. As described in the referenced letter, the alternative flow measurement and sample extraction request involves continued use of the existing sampling system operating at certain times in an over-sampling (super-isokinetic) mode, and to report releases based on the stack's maximum design flow rate (3,000 CFM) rather than increasing the periodic stack flow rate measurements during periods of flow change. This approach will result in a very conservative estimate of annual releases. EPA and WDOH approvals are requested of this stack flow measurement and sampling procedure as an alternative procedure in accordance with 40 CFR 61.93 and WAC 246-247-075, respectively.

Enclosure 3 is a revised Notification of Off-Permit Change to incorporate the NOC for potential radioactive air emissions from deactivation activities into the Hanford Site Air Operating Permit (AOP). This information is being provided to the State of Washington Department of Ecology consistent with their role as lead for the Hanford Site AOP. As a result of the approval, continued use of the 296-Z-3-stack sampler will be considered fully compliant with Title 40 CFR 61, Subpart H and WAC 246-247-075 requirements.

If you have any questions, please contact me, or your staff may contact Mary F. Jarvis, Regulatory Compliance and Analysis Division, on (509) 376-2256.

Sincerely,



Keith A. Klein  
Manager

RCA:MfJ

Enclosures

cc: See page 2

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cc w/encls:

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Admin record

Enclosure 1

RESPONSE TO DOH REVIEW OF DOE/RL-2002-72, REVISION 1 and SUMMARY OF  
CHANGES BETWEEN REVISION 1 AND REVISION 2

RESPONSE TO DOH REVIEW OF DOE/RL-2002-72, REVISION 1 and SUMMARY OF  
CHANGES BETWEEN REVISION 1 AND REVISION 2

Comment #1 – Page 4, lines 18 thru 31. Discussion states that the material will be packaged, opened, inspected and prepared for within the PTRAEU ventilated space. Page 10, lines 6 thru 21. Conflicting statement based on the above.

Response – The section on page 4 (formerly lines, 28 thru 31) and Section 10 (which included the Page 10, lines 6 thru 21) have been expanded to clarify that the page 4 reference was to the final shipping container, not the individual stabilized waste items.

Comment #2– Based on bullet one, Page 20, Table 2, Note b. The reduction factor cannot be credited to the unabated. The wrapping of the material (containment) could be applied as an administrative abatement control to reduce Abated Onsite Public Dose.

Response – The source calculation has been recalculated taking credit for stabilization activities performed on the waste material prior to removal from the ventilation by the 296-Z-3 Stack. Due to the use of fixative techniques, the material being removed from the below grade cells is essentially a solid material. This operation, as clarified in the response to comment #1, is performed prior to the material being ventilated by the PTRAEU, and as such, the majority of material is a solid physical form. The application of fixative has been shown by experience to reduce airborne concentration for activities involving the material in question by more than a factor of 10. A conservative estimate of 1/10 particulate and 9/10 an agglomerated solid has been used to calculate potential dose. This has resulted in revising Table 2 and moving a summary of emissions to a new Table 3.

Comment #3 - Page 20, Table 2, Unabated Public Dose column. The source term challenging the 296-Z-3 Stack also has the potential of challenging the PTRAEUs unless there is some type of physical barrier to isolate these emission routes. The Unabated column needs to reflect this. Abatements applied to the two emission units may be credited in the Abated Onsite Public Dose column.

Response – There was never any intent to operate the PTRAEU units without first establishing a physical barrier to isolate these emission routes. To clarify this separation of the two units, modification to section 5.2, 5.3.2, 6.0 and 10.0 have been made. As a point of clarification, Table 2 has been updated to reflect the potential dose associated with material being ventilated by the PTRAEU without reference to the 296-Z-3 stack emissions.

Additional changes not addressed in the above:

1. As suggested in the meeting to discuss these issues with DOH, as a matter of simplifying recordkeeping, the NOC has been revised to reflect six independent PTRAEU emission units rather than a combined unit. This is reflected in Sections 5.4, 9, and 10, as well as in Table 2 and the new Table 3.

2. As pointed out in the meeting to discuss these issues with DOH, the potential emissions have been recalculated based on radionuclide activity rather than gram weight. This has resulted in changes in areas where gram values were previously used.
3. Consistent with site policy, the term "greenhouse" has been replaced with "temporary containment tent."
4. In rewriting Section 10, "Annual Possession Quantity," it was noted that the potential release associated with bagout activities from handling liquid samples in screw lid bottles removed from the sample glovebox was not included in the calculation for fugitive emission. Since the department does not consider these mechanically sealed containers as sealed sources, and they are handled in an area without controlled ventilation, they have been added to the NOC as a potential fugitive emission. This is reflected in Sections 10 and 13, Tables 2 and 3 and a larger dose potential associated with both abated and unabated emissions

Other minor changes have been made in the relative to the stabilization of material prior to removal and in clarifications of fugitive emissions and operations.

Enclosure 2

Revised NOC Application